



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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July 31, 1986

TO: Board of Oil, Gas and Mining

THRU: Kenneth E. May, Associate Director, Mining *K E May*

THRU: Lowell P. Braxton, Administrator, Mineral Resource Development and Reclamation Program *L P Braxton*

FROM: D. Wayne Hedberg, Permit Supervisor/Reclamation Hydrologist

RE: Kennecott, UCD Modernization Project, Phase II, Permitting Status Update, Notice of Tentative Approval, Public Notice and Executive Summary, ACT/035/002-(II), Salt Lake County, Utah

Attached for your information is a copy of the tentative approval, public notice and revised executive summary for the mine project identified above. Some minor changes have been added to the draft copy which was mailed to you in your monthly Board notebooks.

A tentative approval was forwarded to Kennecott on June 27, 1986 for "Phase II" of the UCD Modernization Project. The modernization project is being permitted by the Division of Oil, Gas and Mining in a two-phase approach. The Division issued final approval for "Phase I" construction activities on March 27, 1986. Public notice has been forwarded to the appropriate news services, and the thirty (30) day public comment period for "Phase II" activities and should end on August 2, 1986.

The Division will seek the Board's concurrence on the amount and form of surety to be presented by Kennecott for this project in the near future. Upon completion of all the remaining permitting conditions and receipt of the surety bond, Kennecott will request that the Board exercise an emergency approval to finalize this permitting activity. It is anticipated that this will occur within the next 7 - 10 days. Kennecott will post a reclamation surety bond in the amount of \$6,483,525 (1991 dollars) for the UCD Modernization Project. Please refer to the attached documents for a general description of the Phase II project.

jvb
Attachments
8946R-54

0005

KENNECOTT UTAH COPPER DIVISION (UCD)
MODERNIZATION PROJECT
(PHASE II)
EXECUTIVE SUMMARY - REVISION TO EXISTING PERMIT
July 31, 1986

Mine Name: Bingham Canyon Mine I. D. No.: ACT/035/002 - II
UCD Modernization Project - Phase II, Grinding/Milling Plant, Ore
Conveyor and Pipeline Construction Activities
Operator: Kennecott Minerals Company County: Salt Lake
P.O. Box 11248 New/Existing: New Revision
Salt Lake City, Utah 84147 to Existing Mine
Salt Lake City, Utah 84147 Mineral Ownership: Kennecott
Telephone: 801-332-8261 Surface Ownership: Kennecott
Contact Person: Mr. Gregory H. Boyce Lease No.(s): N/A
Life of Mine: 30 Years (?) Permit Term: 30 years-UCD Mod.
Legal Description: (of revision) Grinding Plt.- SW1/4 Section 5 and SE1/4
Section 6 and SE1/4 and W1/2 Section 8, T3S, R2W, SLBM; Access Road - portions
of Section 8 and Section 5, T3S, R2W, SLBM; Ore Conveyor - portions of Section
6, 7, and 18, T3S, R2W, SLBM; Pipeline corridor - portions of Section 5 and 6,
T3S, R2W, Sections 6, 7, 8, 16, 17, 21, 28, 29 and 32, T2S, R2W, and Section
31, T1S, R2W, SLBM.
Mineral(s) to be Mined: Copper/Molybdenum
Mining Methods: Typical surface strip mining techniques (shovel & truck)
Acres to be Disturbed: 163 Acres -(Phase I), plus 425 Acres -(Phase II)
Present Land Use: Wildlife, agricultural and mining
Postmining Land Use: Native rangeland, wildlife, grazing
Variances from Reclamation Standards (Rule M-10) Granted: M-10(12) Soils,
*(See Attachment for explanation) M-10(7) Roads and Pads

Soils and Geology:

Soil Description: Clay loam (surface soil, 0-12 inches), Clay to a clay
loam (subsurface soil, 12-60 inches)
pH: 6.2 (average of surface soil), 7.6 (average subsurface soil)
Special Handling Problems: Low erosion hazard, relatively flat topography
Geology Description: East flank, northern Oquirrh Mts. Grinding Plant
underlain by Harkers Alluvium (Pleistocene), Harkers is overlain by Mid-Late
Pleistocene Lake Bonneville lacustrine deposits and by Late Pleistocene to
recent alluvial fan deposits, stream gravels, valley fill and talus deposits,
all are underlain by bedrock consisting of laharic breccia (Bingham Sequence:
Curry Peak, Freeman Peak, Kirkman-Diamond Frms)

Hydrology:

Ground Water Description: Principal aquifer occurs @350-500 feet below
surface overall project area. Local perched aquifer encountered in 1 of 56
bore holes @ 35 ft. Anticipated minor amts. perched groundwater aquifers may
be encountered excavating in Harkers Alluvium near bedrock contact and in
recent alluvium of major drainages crossing the tailings pipeline corridor.

Surface Water Description: The tailings pipeline corridor will cross approximately 50 drainage channels including: Barney's Canyon, Harkers Canyon, Coon Canyon and Little Valley Wash (principal drainages). Retention ponds proposed to handle surface runoff from the new grinding plant/concentrator area.

Water Monitoring Plan: A groundwater monitoring plan has been approved by the Division of Environmental Health to monitor potential impacts to the groundwater regime in the project area. DOGM concurs with the proposed monitoring program. An emergency pipeline spill mitigation plan is also part of the monitoring program.

Ecology:

Vegetation Type(s); Dominant Species: Abandoned dryland farming, sagebrush, oak brush, various grasses, forbes (lower elevations), mountain brush and some pinyon-juniper (higher elevations).

Percent Surrounding Vegetative Cover: 35% for lower elevations and 50% at higher elevations

Wildlife Concerns: Kennecott is working with Division Wildlife Resources and DOGM in finalizing a series of pipeline corridor crossings for migrating wildlife species.

Surface Facilities: Phase I & II facilities include: (1) in-pit movable gyratory ore crusher, 54" in-pit ore conveyors (@3300 ft.), (1)-72" main ore conveyor (@4.9 mi.), ore grinding/milling plant, a 7.5 million gallon process water reservoir, (3) storm H2O retention ponds, miscellaneous structures (lime plant, electrical substation, maintenance shop, warehouse, change house and office buildings), (1)-48" flotation feed (tailings) pipeline and (1)-48" process water return pipeline (twin pipeline length @12.5 mi.), (1) principle grinding plant access road and (2) construction/service roads for the ore conveyor and tailings/return H2O pipelines.

Mining and Reclamation Plan Summary: see attached summary

Surety:

Amount: \$6,483,525 (UCD Modernization Project Reclamation)

Form: Bond

Renewable Term: 5 year (1991 dollars)

ATTACHMENT

Mining and Reclamation Plan Summary
UCD Modernization Project - Phase II

Kennecott Minerals Company, Utah Copper Division
Bingham Canyon Operations
ACT/035/002 - (II)
Salt Lake County, Utah

July 30, 1986

During Operations:

1. Construction activities associated with "Phase I" and "Phase II" permitting will disturb approximately 588 acres of privately owned land. Of this total, 163 acres were previously approved under "Phase I" (i.e., grinding/mill site grading and access road construction). The grinding plant site encompasses 115 acres. The access road right-of-way to the plant location involves 48 acres.
2. "Phase II" permitting includes: construction of the new grinding/milling plant facilities, a new in-pit crusher and 54" conveyor, a 72" crushed ore conveyor to the new grinding plant from the pit, a 48" ground ore (flotation feed) pipeline for transport to existing Arthur and Magna flotation facilities, and a second 48" pipeline to recycle process water back to the grinding plant.
3. The conveyor and pipeline corridors will each be 200 feet wide. The 72" ore conveyor corridor is 6,350 feet in length and will involve 30 acres of new surface disturbance. The pipeline corridor, including areas of common pipeline corridor and single pipeline corridor is 86,000 feet in length and will disturb approximately 395 acres. A construction and maintenance road will parallel the conveyor and pipeline corridors.
4. Prior to the removal of cut or the placement of fill along the conveyor and pipeline routes, the upper horizon soil will be removed from all areas to be disturbed. The soil will be stored in stockpiles along the corridors. Erosion control measures will be implemented to minimize topsoil losses. The soil will be stored from one (1) to three (3) years. Upon completion of construction, stored soil will be placed on the remaining exposed ground, fertilized and reseeded during the fall season.

Following Operations:

1. Kennecott will implement the following reclamation plan upon termination of all mining activities associated with the UCD Modernization Project:
 - (i) Salvageable equipment will be dismantled and sold, surface structures will be razed, foundations, parking and driving surfaces will be broken up, removed and/or buried. Disturbed areas will be stabilized and regraded to conform with the surrounding natural terrain.
 - (ii) Kennecott will not store first horizon soil for final reclamation use. Pursuant to an approved variance request from rule M-10(12), Kennecott, with assistance from the State Division of Oil, Gas and Mining will establish a test plot revegetation program to determine best techniques for supplementing and reclaiming the second horizon soil material.
 - (iii) Pursuant to an approved variance request to M-10(7), Kennecott will not reclaim the pipelines, pipeline corridors, the access road to the grinding/milling plant, or the maintenance/service roads which will parallel the pipeline and conveyor corridors. Kennecott has proposed a post-mining land use for these facilities and will be held responsible for performing routine maintenance activities as necessary.
 - (iv) Standard agronomic practices will be used to prepare the seedbed for drill and/or broadcast seeding. It is anticipated that the disturbed areas will be reclaimed principally with native vegetative species (test plot dependant).